IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Dmitry I. Belov			
Conf. No.:	8494	Group Art Unit:	3715
Appln. No.:	10/785,161	Examiner:	Kathleen Mosser
Filing Date:	February 23, 2004	Attorney Docket No.:	029279-5001
Title:	METHOD FOR ASSEMBLING SUB-POOL OF TEST QUESTIONS		

DECLARATION BY LILY KNEZEVICH UNDER 37 C.F.R .1.132

I, LILY KNEZEVICH, hereby declare the following:

1. I am an employee of the Law School Admission Council ("LSAC"), assignee of the present application.

2. I am familiar with the publication entitled Armstrong, R., Weissman A. and Belov, D., *Developing and Assembling the Law School Admission Test* ("Developing and Assembling the LSAT").

3. Developing and Assembling the LSAT refers to a 2002 implementation of an LSAT assembler utilizing an adaptive stochastic search approach. The 2002 implementation referred to in this article was sometimes referred to internally by LSAC as the "automated assembler."

4. In order for a test assembly algorithm to be used in connection with assembling an actual LSAT to be taken by students, it is necessary to build an operational interface between the test assembler and what LSAC refers to as the ITEMS architecture, which is essentially a computer system that maintains the actual test questions (i.e., items) that may appear on the LSAT.

5. Attached hereto as Exhibit A is a document printed on February 16, 2010, from LSAC's computer system. This document shows the tasks that are to be completed in connection with building the interface between the test assembler and the ITEMS architecture. As can be seen, the exemplary time line shown in Exhibit A begins in September 2002 and ends over a year later.

6. Exhibit A notes that between September 16, 2002 and January 15, 2003, the Test Assembly algorithm (the predecessor to the automated assembler) was to be evaluated. Indeed, during this time period, at my request, Dmitry Belov (the inventor of the present application) evaluated the Test Assembly algorithm, identified certain weaknesses in it, and developed the automated assembler to be used in its stead.

7. Once the automated assembler had been developed, the various tasks required to build the interface between the automated assembler and the ITEMS architecture (as identified in Exhibit A) were carried out.

8. Exhibit B is a Memorandum dated September 26, 2003, on which I was copied. Exhibit B describes an analysis of LSAT forms 69, 70, 71, and 72 (i.e., each LSAT form that is to be taken by students is assigned a unique form number). The analysis for Form 69 refers to the automated assembler.

9. Form 69 was the first LSAT form, that was to be taken by students, to be assembled using the automated assembler, as evidenced by Exhibit C. Exhibit C is a memorandum dated September 18, 2002, on which I was copied. Exhibit C describes an analysis of LSAT forms 65, 66, 67 and 68. The analysis of each of these forms refers to the TestBuilder assembly (i.e., the predecessor to the automated assembler).

10. Exhibit B demonstrates that, at least as of September 26, 2003, LSAT Form 69 was still being analyzed and had not yet been taken by students.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful statements may jeopardize the validity of the application or any patent issued thereon.

Dated: April 26, 2010

Lily Knezevich

EXHIBIT A

ID	Task Name	Duration	Start	Finish	Pred
1	**ITEMS: TEXT CLEANUP**	61 days?	Tue 10/8/02	Tue 12/31/02	
2	Program a" Reveal Codes" program for item/stim text	61 days?	Tue 10/8/02	Tue 12/31/02	
3	Program software to remove spaces before question marks	61 days?	Tue 10/8/02	Tue 12/31/02	
4	**CONVERSION OF ITEMS DATABASE TO SQL SERVER**	223 days?	Thu 10/31/02	Mon 9/8/03	
5	Develop IBG/IBM in SQL environment	92 days?	Thu 10/31/02	Fri 3/7/03	
6	Develop remaining ITEMs interfaces DEV environment (based on SQL Server)	65 days?	Mon 3/10/03	Fri 6/6/03	
7	Beta Testing	65 days?	Mon 6/9/03	Fri 9/5/03	
8	PROD relase of ITEMS on SQLServer	1 day?	Mon 9/8/03	Mon 9/8/03	
9	**ITEM REVIEW: PHASE II ENHANCEMENTS**	134 days?	Tue 9/3/02	Fri 3/7/03	
10	**New Editing Scheme**	134 days	Tue 9/3/02	Fri 3/7/03	
11	Programming	94 days	Tue 9/3/02	Fri 1/10/03	
12	Testing/Fixing bugs	40 days	Mon 1/13/03	Fri 3/7/03	11
13	**New Item/Batch Wizard**	109 days?	Tue 10/8/02	Fri 3/7/03	
14	Design Functional Specifications	18 days?	Tue 10/8/02	Thu 10/31/02	
15	Programming	45 days?	Fri 11/1/02	Thu 1/2/03	14
16	Testing/Fixing bugs	46 days?	Fri 1/3/03	Fri 3/7/03	15
17	**ITEMS: WINDOWS 2000 TESTING**	109 days?	Tue 10/8/02	Fri 3/7/03	
18	Testing ITEMS on Windows 2000	39 days?	Tue 10/8/02	Fri 11/29/02	
19	Programming/Fixing/Testing ITEMS for Windows 2000	70 days?	Mon 12/2/02	Fri 3/7/03	
20	**TEST ASSEMBLY: INTEGRATION WITH ITEMS ARCHITECTURE**	205 days	Mon 9/16/02	Mon 6/30/03	
21	Evaluate Test Assembly algorithm	88 days	Mon 9/16/02	Wed 1/15/03	
22	Adapt Test Assembly code to ITEMS standards (HOLD)	0 days	Mon 6/30/03	Mon 6/30/03	
23	**ITEMBANK MONITORING: PRETEST PROCESSING (REPORTS, ORDERING) (HOLD until after SQL)**	195 days?	Mon 6/2/03	Fri 2/27/04	
24	Design Functional Specifications	67 days	Mon 6/2/03	Tue 9/2/03	
25	Programming	83 days?	Mon 9/8/03	Wed 12/31/03	24
26	Testing/Fixing bugs	42 days?	Thu 1/1/04	Fri 2/27/04	25
27	**IBG INTERFACE: EXPORT STIMULUS/ITEM TEXT UTILITY (HOLD until after SQL)**	195 days?	Mon 6/2/03	Fri 2/27/04	
28	Design Functional Specifications	67 days?	Mon 6/2/03	Tue 9/2/03	
29	Programming	83 days	Mon 9/8/03	Wed 12/31/03	28
30	Testing/Fixing bugs	42 days?	Thu 1/1/04	Fri 2/27/04	29
31	**ITEMBANK POOL ANALYSIS**	0 days	Thu 1/1/04	Thu 1/1/04	
32	**IBM/STATISTICS INTERFACE: STRIPS DATA IN ITEMS (HOLD until after SQL)**	0 days	Thu 1/1/04	Thu 1/1/04	
33	Desgin Functional Specifications	0 days	Thu 1/1/04	Thu 1/1/04	
34	Programming	0 days	Thu 1/1/04	Thu 1/1/04	
35	Testing/Fixing bugs	0 days	Thu 1/1/04	Thu 1/1/04	
36	**PRETEST ASSEMBLY (HOLD?)**	0 days	Thu 1/1/04	Thu 1/1/04	
37	**PRETEST REVIEW (HOLD?)**	0 days	Thu 1/1/04	Thu 1/1/04	
38	**DISCLOSURE/PUBS INTERFACE (HOLD)**	0 days	Thu 1/1/04	Thu 1/1/04	
39	**INQUIRY INTERFACE (HOLD)**	0 days	Thu 1/1/04	Thu 1/1/04	

March | April | May

Project: PROGRAM.mpp
Date: Tue 2/16/10

Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | Split | External Tasks | Project Summary | Group By Summary

EXHIBIT B

Memorandum

To: J. Lorié, S. Luebke, G. Plumer

CC: R. Adams, L. Knezevich, form files

From: Dave Kary

Date: 09/26/03

Re: Preliminary Assemblies of forms 69,70, 71, and 72.

Form 69:

100 items, predicted mean score = [redacted]

AR: 22 items

LA: 25 items. [redacted]. (The automated assembler does not enforce a key distribution requirement.)

LB: 25 items. This section has [redacted]

RC: 28 items. One item from the initial assembly [redacted] was replaced [redacted] because it was part of an enemy pair in this section.

Form 70:

100 items, predicted mean score = [redacted]

AR: 22 items. [redacted]. One of the sets [redacted] violates the word count maximum, but the total maximum for the section is within spec.

LA: 25 items

LB: 25 items. [redacted]

RC: 28 items

Form 71:

100 items, predicted mean score = [redacted]

AR: 22 items

LA: 25 items

LB: 25 items. [redacted]

RC: 28 items. Contains a W set.

Form 72:

100 items, predicted mean score = [redacted]

AR: 22 items

LA: 25 items. [redacted]

LB: 25 items [redacted]

RC: 28 items. Contains a W set. [redacted]

An important note regarding predicted means:

These 100 item forms were assembled so that their predicted means fall within a range between [redacted] and [redacted]

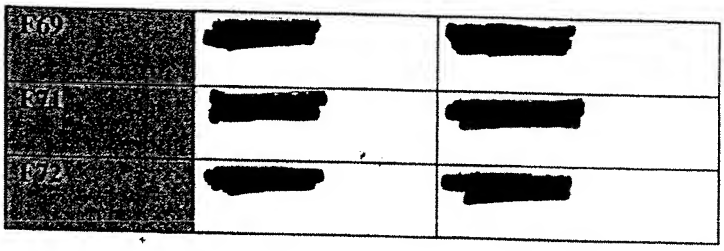
A report for 'Predicted Mean Observed Score' is now available in IBM in the PreOp reports. This report is the best available way of keeping track of changes to a form's predicted mean and is preferable to using the 'Sum of Pplus_Eq' report for this purpose. The Predicted Mean report can also be used for individual sections, and it is preferable to the 'Sum of Pplus_Eq' report for keeping track of changes to an individual section's predicted mean.

G Form:

For the purposes of the [redacted] is interchangeable with [redacted]. The predicted mean score for [redacted] is [redacted]. The predicted mean score for [redacted] is [redacted].

AR sets that come from high-difficulty pretests

This assembly includes three AR sets that were pretested in the third or fourth position in pretests that proved to be quite difficult. Those sets are listed here along with the IDs of the sections in which they were pretested. The pretest sections can be viewed in Item Bank Monitoring, in the Public Subpools under DAK.



Ordering within sections:

Form sections are ordered in accordance with the 11/99 guidelines, "Creating (Initial) Pre-Op Section Ordering Summary Sheets."

Pool usage issues:

All items in these four initial assemblies came from an assembly pool of items pretested on or before 12/99. The automated assembler was able to produce five forms from this pool; that is, the four forms that were chosen for review plus one other. Newly developed pool evaluation tools will be run in the near future to determine if any more forms can be drawn from this pool.

Other issues:

[redacted] seems to be missing italics.

EXHIBIT C

Memorandum

To: J. Lorié, S. Luebke, G. Plumer

CC: R. Adams, L. Knezevich, form files

From: Dave Kary

Date: 09/18/02

Re: Preliminary Assemblies of forms 65, 66, 67, and 68

Form 65:

AR: 23 items (pretest position for sets: 1,3,3,4). One set from the TestBuilder assembly was replaced because it resulted in too many [redacted] items. The replacement set is [redacted]

LA: 25 items

LB: 26 items

RC: 27 items, 1 M set, no W set (pretest position for sets: 1,2,3,4)

Predicted mean for the TestBuilder assembly, according to that program's "Theta Statistics" calculations: [redacted]

Change in P+E between the TestBuilder assembly and the revised assembly [redacted]

Form 66:

AR: 22 items, (pretest position for sets: 1,2,3,4)

LA: 25 items

LB: 26 items. [redacted] has an error in its text: [redacted]

RC: 28 items, 1 M set, 1 W set, (pretest position for sets: 1,2,3,4). In the initial RC assembly, two sets [redacted]s. (Both were 'W' sets: two 'W' sets appeared in the same section because one was missing the relevant codes.) For this reason, [redacted] was replaced by [redacted].

Predicted mean for the TestBuilder assembly, according to that program's "Theta Statistics" calculations: [redacted]

Change in total P+E between the TestBuilder assembly and the revised assembly: [redacted]

Form 67:

AR: 23 items (pretest position for sets: 1,2,2,4) [redacted]

LA: 25 items

LB: 26 items. One of the items in this section [redacted]

RC: 27 items, [redacted] (pretest position for sets: 1,1,2,4). In the TestBuilder assembly, two sets dealt with a similar subject matter (linguistics). As a result [redacted] was replaced by [redacted].

Predicted mean for the TestBuilder assembly, according to that program's "Theta Statistics" calculations: [redacted]

Change in total P+E between the TestBuilder assembly and the revised assembly: [redacted]

Form 68:

AR: 22 items (pretest position for sets: 1,2,3,4). Note: This section has five [redacted] and only one [redacted] however at least one of the [redacted] seems more like an [redacted]

LA: 25 items

LB: 26 items

RC: 28 items, 1 set that is both M and W (pretest position for sets: 1,1,3,4)

Predicted mean for the TestBuilder assembly, according to that program's "Theta Statistics" calculations: [redacted]

Change in total P+E between the TestBuilder assembly and the revised assembly: [redacted]

G Form:

[redacted]

66.

Total P+E: F65 [redacted] F66 [redacted]

Ordering within sections:

When the forms were imported into Item Bank Monitoring, the sections were mechanically ordered, following the 11/99 guidelines, "Creating (Initial) Pre-Op Section Ordering Summary Sheets." Most of this ordering had to be revised because of item/set replacement. This was done by the initial assembler, also following the above guidelines.